RADHA MASTANDREA

(+1)781-929-5259 ⋄ radha.mastandrea@gmail.com

EDUCATION

University of California, Berkeley, Berkeley CA, USA *August 2021 - present*
PhD in Physics.
Relevant Coursework: Particle Phenomenology, QFT I & II

University of Cambridge, Cambridge, UK *October 2020 - September 2021*
Master of Philosophy in Physics.
Thesis: Investigating non-standard sourcesof parity violation at the LHC
Thesis Advisor: Christopher Lester

University of Cambridge, Cambridge, UK *October 2019 - June 2020*
Master of Advanced Study in Physics. Pass with Distinction
Thesis: Search for new physics in $B^0_{(s)} \to \mu^+\mu^-\mu^+\mu^-$ decays
Thesis Advisor: Valerie Gibson
Relevant Coursework: Particle Physics, Advanced Quantum Field Theory, Gauge Field Theory, Quantum Information

Massachusetts Institute of Technology, Cambridge MA, USA *September 2015 - June 2019*
Bachelor of Science, Physics. GPA: 5.00/5
Thesis: Analyzing CMS Open Collider Data through Topic Modeling
Thesis Advisor: Jesse Thaler

PUBLICATIONS & PREPRINTS

Barry M. Dillon, Radha Mastandrea, and Benjamin Nachman. *Self-supervised Anomaly Detection for New Physics*. 2022. DOI: 10.48550/ARXIV.2205.10380. URL: https://arxiv.org/abs/2205.10380

Christopher G. Lester et al. *Hunting for vampires and other unlikely forms of parity violation at the Large Hadron Collider*. 2022. DOI: 10.48550/ARXIV.2205.09876. URL: https://arxiv.org/abs/2205.09876

Brian T Cook et al. "Tracing Milky Way substructure with an RR Lyrae hierarchical clustering forest". In: *Monthly Notices of the Royal Astronomical Society* (Apr. 2022). stac1007. ISSN: 0035-8711. DOI: 10.1093/mnras/stac1007. eprint: https://academic.oup.com/mnras/advance-article-pdf/doi/10.1093/mnras/stac1007/43400845/stac1007.pdf. URL: https://doi.org/10.1093/mnras/stac1007

Patrick T. Komiske et al. "Exploring the Space of Jets with CMS Open Data". In: *Phys. Rev. D* 101.3 (2020), p. 034009. DOI: 10.1103/PhysRevD.101.034009. arXiv: 1908.08542 [hep-ph]

Radha Mastandrea. "Testing Parametrized Theories of General Relativity Using Gravitational Waves". In: *MIT Undergraduate Research Journal* 34 (Fall 2017)

SELECTED TALKS

"Using symmetries to build better latent spaces for dijet representation learning" *April 2022*
APS April Meeting, *New York*

"Exploring the Parity of the Quark-Sector SME with MADGRAPH" *May 2021*
Fourth Summer School on the Lorentz- and CPT-violating Standard-Model Extension, *ICUSS*

"Analyzing CMS Open Collider Data through Topic Modeling" *July 2019*
BOOST Physics Workshop, *MIT*

"Jet Analysis with the CMS Open Data" *November 2018*
Greater Boston Undergraduate Research Conference, *MIT*

"Testing Parameterized Theories of General Relativity using Gravitational Waves" *October 2017*
APS New England Section Meeting, *University of Rhode Island*

WORK EXPERIENCE

Riverlane, Cambridge, UK *June 2020 - September 2020*
Quantum Computing Summer Internship Student

- Explored the feasibility of taking Pauli expectation values under the Variational Quantum Eigensolver (VQE) framework
- Devised an algorithm to make simultaneous measurements of commuting and anticommuting Paulis operators through phase kickback measurements

SKILLS

Software & Tools Python, C++, ROOT, Matlab, Mathematica

HONORS AND AWARDS

APS DSECOP Fellow	*Spring 2022 - present*
NSF Graduate Research Fellowship	*Fall 2021 - present*
Marshall Scholarship	*October 2019 - July 2021*
Joel Matthew Orloff Award for Outstanding Service	*June 2019*
Phi Beta Kappa	*June 2019*
Sigma Pi Sigma	*June 2019*
FUTURE of Physics @ Caltech selected participant	*Fall 2019*
Heising-Simons Physics Research Fellowship	*Summer 2018*